

NAVAL HEALTH RESEARCH CENTER

PREDICTORS OF PREMILITARY COURTSHIP VIOLENCE IN A NAVY RECRUIT SAMPLE

J. W. White

L. L. Merrill

M. P. Koss

Report No. 99-19

DTIC QUALITY INSPECTED 4

19991108 087

Approved for public release; distribution unlimited.

**NAVAL HEALTH RESEARCH CENTER
P O BOX 85122
SAN DIEGO, CA 92186-5122**

**BUREAU OF MEDICINE AND SURGERY (MED-02)
2300 E ST. NW
WASHINGTON, DC 20372-5300**



Predictors of Premilitary Courtship Violence in a Navy Recruit Sample

Jacquelyn W. White

Lex L. Merrill

Mary P. Koss

Naval Health Research Center
P.O. Box 85122
San Diego, CA 92186-5122

Report No. 99-19, supported by the Bureau of Naval Personnel, Department of the Navy, under a reimbursable - 6309 research work unit. The views expressed in this article are those of the authors and do not reflect the official policy or position of the Department of the Navy, Department of Defense, or the U.S. Government. Approved for public release, distribution unlimited.

The authors acknowledge the contributions of the project sponsor, Navy Family Advocacy Program, under the direction of Dr. Sandra Rosswork, whose support made the study possible. The authors extend their sincere gratitude to the staff at the Recruit Training Command, Orlando, FL, and especially the U.S. Navy recruits who participated in this study.

Human subjects participated in this study after giving their free and informed consent. This research has been conducted in compliance with all applicable Federal Regulations governing the Protection of Human Subjects in Research.

SUMMARY

Problem: Previous reports have revealed a preilitary prevalence rate of 50% for intimate partner (IP) violence among U. S. Navy recruits. The overall levels of endorsing IP violence have been found to be similar for women and men but the outcomes are different. A need exists for a validated model of IP violence that will provide information for the development of prevention, treatment, and intervention programs.

Objective: The objective of the present study was to extend research on IP aggression to preilitary experiences of IP violence among U.S. Navy recruits.

Approach: Riggs and O'Leary's (1989) model of courtship aggression was examined separately for men (N = 1,307) and women (N = 1,477). Partner verbal, physical, and sexual aggression and alcohol use were used as additional predictors of courtship aggression. To examine gender-specific effects, a test was conducted of the model using participant gender along with the significant variables from the initial analyses and the interaction of gender with each of these variables.

Results: Situational components explained more variance in the data than the background components. For women and men, the amount of variance accounted for was almost tripled after the addition of the situational factors. Notably, partner aggression contributed to a substantial increase in the amount of variance. We found that partner's verbal aggression was the single best predictor of aggression, and partner's physical aggression was the second best predictor. The situational component substantially increased the predictive power of the model. Analyses suggested that the background variables made a small but significant contribution to the percentage of variance accounted for in partner violence. These background factors included demographic factors, child abuse, and personality and attitudinal factors. Each factor contributed less than 1% of the unique variance.

Conclusions: The results support the validity of the Riggs and O'Leary (1989) model. At the applied level, the results support the conclusion that IP violence prevention programs should contain material that will allow men and women to learn that violence begets violence. An IP may initiate behaviors that she/he perceives to be trivial; however, these behaviors can trigger an escalated response from their partner that may result in negative short and long-term medical and psychological consequences for both partners. More generally, all people should consider the effects of their own aggression as not just potentially injurious to others, but as potential elicitors of injury to themselves. In this respect, women are clearly at greater risk. This perspective should not be construed as an argument against self-defense or as victim blaming. Our intention is to increase awareness of the serious consequences of initiating violence as a conflict resolution tactic.

Introduction

Courtship violence has been the focus of numerous studies since O'Leary and colleagues (O'Leary, Barling, Arias, Rosenbaum, Malone, & Tyree, 1989) found that premarital aggression is a strong predictor of marital aggression (Clark, Beckett, Wells, & Dungee-Anderson, 1994; Laner, 1990; Miller & Simpson, 1991; O'Leary, Malone, & Tyree, 1994; Riggs & O'Leary, 1996; Rouse, 1991; Ryan, 1995; Stickel & Ellis, 1993; Thompson, 1991; Tontodonato & Crew, 1991). The premise of many of these studies is that dating during the adolescent and young adult years provides a "training ground" for behavior in subsequent, long-term relationships. Other studies have documented the extent of verbal and physical aggression occurring in intimate relationships in samples as varied as high school students (Roscoe & Kelsey, 1986), college students (White & Koss, 1991), marital partners (Straus & Gelles, 1990), and military recruits (Merrill, Hervig, Milner, & Newell, 1998). Despite methodological variations, this body of research confirms the ubiquitous nature of interpersonal violence in intimate relationships. The research suggests that both women and men inflict and sustain verbal and physical partner violence, that verbal aggression is more common than physical aggression, and that women are more likely than men to report being aggressive. Male intimate partners (IPs), however, inflict more serious injury, both physically and psychologically, on their female IPs. Furthermore, the research has suggested a cyclical and reciprocal pattern of involvement in intimate violence, which indicates that verbal aggression often escalates to physical aggression, and, when one partner aggresses, the other partner is more likely to aggress.

A primary goal of the present study was to examine predictors of premilitary IP violence experiences of male and female U.S. Navy recruits, using the Riggs and O'Leary (1989, 1996) model. Based upon premilitary histories of intimate partner violence, military personnel may be at increased risk of involvement in violent relationships during their military service. Although the full impact of premilitary experiences with IP violence on job-related functions remains to be evaluated, preliminary evidence suggests serious consequences (Merrill et al., 1998). Additionally, the present paper offers an important extension of research on courtship violence because military recruits, by virtue of age, have the same elevated prevalence of violence as college students. Recruits, however, are more ethnically, economically, and

educationally diverse. In comparison to an overall mean prevalence for IP violence of 28% (Sugarman & Hotaling, 1989), the prevalence of courtship violence among Navy recruits is at the high end of the range typically found in college student samples (Merrill, et al., 1998). Merrill, et al. found that 50% of the recruits reported receiving or inflicting, or receiving and inflicting IP physical violence, as defined by the physical violence subscale of the Conflict Tactics Scales (CTS, Straus, 1990). Furthermore, more women (47%) than men (32%) reported inflicting physical aggression at least once, whereas more men (43%) than women (40%) reported at least one instance of receiving physical violence. However, more women (25%) than men (9%) reported physical injury as a result of IP violence.

Riggs and O'Leary (1989, 1996) developed a comprehensive model of courtship violence that consists of two components. The first component is composed of background factors that they hypothesized to be causally related to courtship aggression. These factors include the observation of interparental physical aggression and the receipt of childhood physical abuse, which provide the primary source for the early modeling of aggression and contribute to the establishment of a pattern of aggressive behavior. Early childhood experiences also contribute to attitudes accepting of aggression, as well as to the development of impulsive, aggressive personality styles. The second component consists of situational factors and includes relationship characteristics (e.g., relationship satisfaction and communication patterns), expectations about the outcome of aggression, stress, alcohol use, and partner's use of aggression. Situational factors increase the likelihood of conflict in relationships, which in turn increases the likelihood that verbal and/or physical aggression will be used to resolve the conflict. Situational factors can also be considered proximal factors and may include, but are not restricted to, features of the specific situation in which the violence occurs.

Riggs and O'Leary (1996) found that their model accounted for more than 60% of the variance in male courtship aggression but only 32% of the variance in female courtship violence. They did not report the variance accounted for by the background and situational components separately. They found that the paths leading to these components were somewhat different for women and men. For both, aggressive attitudes, conflict with one's partner, and a pattern of aggressive behavior predicted courtship aggression. For men, witnessing parental aggression led to aggressive attitudes and experiencing child abuse led to

a pattern of aggressive behavior, whereas for women, both witnessing parental aggression and experiencing child abuse led to IP aggression. O'Leary et al. (1994) suggested that personal history might be more important for women than for men, with an impulsive/defensive personality being directly related to IP physical aggression. On the other hand, they suggested that for men, verbal aggression mediates the relationship between an aggressive/defensive personality and physical aggression toward one's partner.

Riggs and O'Leary (1996) suggested that additional factors, including alcohol use and partner's level of aggression, need to be specified in future models. The role of partner's aggression was based on the assumption that women's IP aggression may more often be a defensive response to their partner's aggression than is men's aggression. Although they hypothesized partner aggression in their 1989 model, they did not include it in their 1996 study. White and Humphrey (1994a) found support for the use of partner's aggressive behavior as a predictor of IP aggression. They conceptualized partner aggression as an indicator of victimization and found that sexual and nonsexual victimization by a dating partner during adolescence was a significant predictor of college women's verbal and physical aggression toward a romantic partner. The role of partner aggression in male IP violence has not been tested because neither White and Humphrey (1994a) nor any other study has included a sample of men. Similarly, Riggs and O'Leary proposed, but did not include, a measure of alcohol use in their 1996 study. A substantial body of research has established significant links between alcohol use and aggression (see Baron & Richardson, 1994 for a summary). Several studies have suggested this link in courtship violence (Comins, 1984; Makepeace, 1981), acquaintance sexual assault (Hammock & Richardson, 1992; Koss & Gaines, 1993; Humphrey & White, 1992), and domestic violence (Leonard & Senchak, 1996). Alcohol may serve several functions, including being a disinhibitor for aggressive behavior. Alcohol also is related to victimization because it places women in an environment where they are situationally accessible to men whose aggression has been primed by alcohol (Testa & Collins, 1997).

The purpose of the present study was to extend research on courtship aggression to premilitary experiences of courtship violence among male and female U.S. Navy recruits. Although the overall levels of endorsing IP violence have been found to be similar for women

and men, outcomes appear to be different. This suggests that the behavior may serve different ends and hold different meaning for women and men. This indicates a need to examine the Riggs and O'Leary (1989) model of courtship aggression separately for men and women. Thus, we examined the Riggs and O'Leary model separately for women and men, adding the situational components of partner verbal, physical, and sexual (for women only) aggression, and alcohol use as additional predictors of courtship aggression. Second, to examine gender-specific effects, we conducted a test of the model using participant gender along with the significant variables from the initial analyses and the interaction of gender with each of these variables.

Method

Participants

Approximately 93% of the male ($N = 1,885$) and 90% of the female ($N = 1,891$) U.S. Navy recruits stationed at the Recruit Training Command (RTC), Orlando, Florida (from January to March 1994 for men, and January to April 1994 for women) volunteered to complete an anonymous self-report survey. Some recruits were unavailable to participate because they were engaged in other testing or training. Additionally, 461 men and 333 women were removed from the final sample because they had incomplete protocols, and 177 men and 81 women were removed because their protocols were deemed invalid.¹ The final sample consisted of 1,307 men and 1,477 women. No differences based on age or family income were found between respondents who had complete or incomplete data. Married women were more likely to complete the survey than were other women. As is typically found in survey research, complete data were more likely to be contributed by those of higher education and nonminority ethnicity (the effect size for each was small). See Merrill, et al. (1998) for an additional description of the sample.

Test instruments

Predictors

Demographic questions. This portion of the survey contained items related to age, ethnicity, marital status, number of children, educational level, parents' income during the past year, and geographic location of primary childhood residence. For data analysis purposes, age, educational level, and parents' income were treated as continuous variables. Gender and

marital status (single or not, which included cohabiting, separated, divorced, or widowed) were treated as dichotomous variables. Effects coding was used for ethnicity according to the guidelines recommended by Cohen and Cohen (1983).

Background Component

Child abuse. To assess witnessing of interparental aggression, respondents were asked how many times, while they were growing up, they had observed one of their parents or stepparents delivering physical blows (i.e., hitting, kicking, throwing the partner down) to the other. Six response options were available: never, once or twice, 3-5 times, 6-10 times, 11-20 times, or over 20 times (from Koss, Gidycz, & Wisniewski, 1987). The participant's responses were dichotomized as never witnessing or ever witnessing (20% for men, 31% for women witnessed parental aggression) for our analyses.

The Parent-Child (PC) version of the Conflict Tactics Scales (CTS-PC; Straus, 1990, p. 33) was administered in order to assess experiencing parental aggression (Riggs & O'Leary's child abuse construct). The present study included verbal aggression (6 items; in this study, alpha = .83 for men; .84 for women) and physical aggression (nine items; alpha = .83 for men; .86 for women). Each response was summed across the items within the two subscales to obtain total subscale scores (Straus, 1990, p. 36). The respective means for verbal aggression for men and women were 13.3 ($SD = 9.1$) and 14.1 ($SD = 9.8$), and for physical aggression, 6.8 ($SD = 8.2$) and 7.6 ($SD = 9.3$).

Childhood sexual abuse was considered as occurring if a respondent reported any sexual experience that occurred before the age of 14 with a person at least five years older than her/him, or with someone less than 5 years older than her/him if it involved use of authority, bribes, threats of force, or force. Participants' responses were dichotomized as never happening or ever happening (31% of the women and 13% of the men reported childhood sexual abuse).

Attitudes accepting of aggression. The Hostility Toward Women scale (HTW, Check, 1984, alpha = .80) was administered to male participants. Malamuth and colleagues found that a strong relationship existed between hostility toward women, attitudes accepting of aggression, and violence toward women (Malamuth, Heavey, & Linz 1993; Malamuth, Linz, Heavey, Barnes, & Acker, 1995). Therefore, we concluded that HTW was a reasonable

measure to capture the intent of the attitudes accepting of aggression construct. Furthermore, in the present sample the HTW measure correlated significantly with two individual items that inquired about the frequency of starting fights and arguments when angry (these items were not included in the present analyses because as individual items we had no information on their reliability). The same scale was used for female participants but the wording was changed to reflect hostility toward men (HTM, alpha = .79). Newell and Merrill (1996) reported data on the HTW and HTM that support their validity as measures of attitudes accepting of aggression. They also found a significant relationship, for women, between the acceptance of interpersonal violence and hostility toward men.

Angry/impulsive personality. Riggs and O'Leary (1989, 1996) postulated that one consequence of early experiences with family violence is an angry/impulsive personality. To capture this construct we used the Anger/Irritability (AI, alpha = .88 for men, .89 for women) subscale of the Trauma Symptom Inventory (TSI, Briere, 1995). This subscale assessed the extent to which respondents report experiencing angry mood and irritable affect.

Prior aggressive behavior. Prior use of aggression was assessed using the Tension Reduction Behavior (TRB) subscale of the TSI (in the present study alpha = .76 for men and .77 for women). This subscale assesses the extent to which respondents tend to externalize distress by harming themselves or others, especially by acting out negative affect. Additionally, male respondents completed the Sexual Experiences Survey (SES, Koss et al., 1987) to assess the extent and type of sexual aggression they had directed toward women since the age of 14. The SES classified each male respondent into 1 of 5 mutually exclusive categories: no sexual aggression (59%), unwanted sexual contact (16%), verbally coerced sexual intercourse (8%), attempted rape (4%), or rape (11%) according to the most serious form of sexual aggression reported.

Situational Component

Victimization by partner. A form of the CTS, which asked how often each of the behaviors by one's IP had been directed toward the respondent, was used to assess victimization experiences (Straus, 1990). We used two subscale scores, for verbal aggression (alpha = .83 for men, .82 for women) and physical violence (alpha = .88 for men, .91 for women).² Eighty-five percent of the men and 86% of the women reported being the target of

verbal aggression; the mean number of verbally aggressive acts reported was 6.2 ($SD = 5.2$) for men and 6.4 ($SD = 5.5$) for women. Forty-three percent of the men and 40% of the women experienced at least one instance of IP physical aggression; the mean number of acts of physical aggression was 2.5 ($SD = 4.6$) for men and 2.5 ($SD = 5.2$) for women. Additionally, the SES (Koss et al., 1987) was administered to women, asking them whether they had experienced any of several types of unwanted, coerced, or forced sexual contact. Based on the most serious forms of sexual aggression experienced, women were placed into 1 of 5 mutually exclusive categories: no sexual assault (28%), unwanted sexual contact (22%), verbally coerced sexual intercourse (10%), attempted rape (12%), or rape (28%).

Alcohol problems and use. The 25-item Michigan Alcoholism Screening Test (MAST, Selzer, 1971) was used to measure participants' problems with alcohol (alpha = .76 for men, .68 for women). Alcohol use was assessed by computing a dose/frequency index (White & Humphrey, 1994b). This measure is the cross product of responses to items asking about the frequency of drinking and the quantity of alcohol consumed on a typical drinking occasion. Correlations between frequency and quantity were .58 for men and .57 for women. Correlations between the index score, and the frequency and quantity measures ranged from .83 to .89.

Outcome Measures

IP violence. The verbal aggression (alpha = .82 for men, .82 for women) and physical violence (alpha = .88 for men, .88 for women) subscales of the CTS were used as measures of IP violence (Form A, Straus, 1979, p. 87). Eighty-three percent of the men and 88% of the women reported using verbal aggression. The mean number of verbal aggressive acts was 5.5 ($SD = 1.3$) for men and 6.5 ($SD = 5.3$) for women. Thirty-two percent of the men and 47% of the women reported using physical violence. The mean number of physically violent acts was 1.3 ($SD = 3.2$) for men and 2.6 ($SD = 4.7$) for women. A substantial subset of women (46%) and men (31%) reported being verbally and physically aggressive toward IPs, and of those who were physically aggressive, 97% of the women and 96% of the men also reported being verbally aggressive. Because of the substantial co-occurrence of verbal and physical aggression in women ($r = .67$) and in men ($r = .50$), we created a composite score based on the sum of the verbal and physical aggression subscale scores.

Procedure

The items analyzed in the present study were administered as part of a larger survey offered to Navy recruits during their first week at RTC. Two U.S. Navy hospital corpsmen (one man and one woman), who were experienced psychological technicians, administered the survey in a classroom setting. The technicians read a description of the study and gave the recruits who agreed to participate a detailed description of the study, a Privacy Act statement, and an informed consent form. Recruits were told that participation was voluntary, that they could skip questions, they could stop at any time, and that professional counseling was available, upon request, if any part of the survey caused them distress.

Results

Overview of analyses

First, zero-order correlations between all variables were examined for collinearity; no correlation exceeded .69 for women and .75 for men. Then, to test the Riggs and O'Leary (1989) model, a blockwise hierarchical regression analysis was conducted to predict IP violence. The background component of the model consisted of five blocks of variables, entered in the following order: demographic factors (age, gender, ethnicity, marital status, educational level, and family income),³ child abuse (witnessing parental aggression, experiencing verbal and physical parental aggression), attitudes accepting of aggression (HTW for men, HTM for women), anger/irritability personality, and past aggressive behavior (TRB). The situational component of the model contained two blocks of variables with partner's verbal and physical aggression entered as the next to the last step, and the MAST scores and the alcohol dose frequency/quantity index entered as the last step. Alpha was set at .01 because of the likelihood that the large sample size would render many trivial effects statistically significant in the regression analyses. Additionally, any factor accounting for less than 1% of the unique variance, based on a squared partial correlation, was considered trivial in the interpretation of data, even if statistically significant.

Because gender-related patterns of IP violence were of particular theoretical interest, comparable analyses were conducted separately for men and women. Adolescent experiences with sexual assault, using the SES categories, were added to the partner's behavior block for women. For men, self-reports of sexual aggression, using the SES, were added to the past

behaviors block. To further examine gender-specific effects, two additional analyses were completed. First, each significant predictor in the regression analyses of the male and female data was identified and its corresponding beta (β) weight and confidence interval (CI, +/-1.96) were compared. An overlap indicated no difference between men and women for that variable. Nonoverlapping variables suggested a gender effect. A regression analysis using gender, each significant predictor, and each interaction term (Gender x Predictor) was performed (See Table 1).

Analyses by Gender

Men. The background component of the blockwise hierarchical regression analysis resulted in $R = .51$, $p < .001$, 25% of the adjusted variance. R increased to .82, 67% of the adjusted variance, after the situational components were added to the model. All steps resulted in significant increments in the value of R . Partner's verbal aggression was the best predictor ($sr^2 = .26$, $\beta = .63$), followed by partner's physically aggressive behavior ($sr^2 = .07$, $\beta = .32$). Also statistically significant were alcohol problems (MAST scores: $sr^2 = .03$, $\beta = .12$) past sexually aggressive behavior ($sr^2 = .02$; $\beta = .50$), AI ($sr^2 = .03$; $\beta = .15$), and HTW ($sr^2 = .01$; $\beta = .16$). Thus, the addition of the situational components to the background components increased the amount of variance accounted for by a factor of 2.7, with partner verbal aggression alone contributing 26% of the variance in men's IP violence.

Women. The regression analysis for the background factors yielded an R of .44 (18% of adjusted variance). After the addition of the partner violence and alcohol steps $R = .74$ (55% of adjusted variance). Partner's verbal aggression provided 24% of the variance ($\beta = .83$), whereas partner's physical aggression accounted for 4.0% of the variance ($\beta = .33$) and AI contributed 3.0% of the variance ($\beta = .22$).

Gender-related differences. The beta weights and the 95% CIs were examined for each variable significant in the regression analyses for the male and female data. Only partner's verbal aggression showed no overlap for the beta and CI for women ($\beta = .83$, 95% CI, .75-.91) and men ($\beta = .63$, 95% CI, .55-.71). To confirm this apparent Gender x Partner's verbal aggression interaction a single model was created with gender, anger/irritability (AI), hostile attitudes toward the opposite gender (HTW; HTM), problems with alcohol (MAST scores),

Table 1

Summary of Blockwise Hierarchical Regression Analysis

<i>Gender</i>	<i>Mult.R</i>	<i>R2</i>	<i>SR2</i>	<i>R2ch</i>	<i>Estimate Coefficient in Equation</i>
MALE					
Block 1-5: Background	0.51	0.25		0.25	
Block 6: Situational	0.82	0.67		0.42	
Verbal Aggression		0.26			0.63
Physical Aggression		0.07			0.32
MAST		0.03			0.12
Sexually Aggressive		0.02			0.50
Anger/Irritability		0.03			0.15
Hostility Toward Women		0.01			0.16
FEMALE					
Block 1-5: Background	0.44	0.18		0.18	
Block 6: Situational	0.74	0.55		0.37	
Verbal Aggression		0.24			0.83
Physical Aggression		0.04			0.33
Anger/Irritability		0.03			0.22

partner's verbal aggression, partner's physical aggression, and the interaction of gender with each of the latter variables. A regression analysis found that $R = .78$ (60% of the adjusted variance). This model confirmed the significance of each main effect except gender ($p = .06$). Partner's verbal aggression accounted for the most unique variance ($sr^2 = .11$, $\beta = .68$), followed by partner's physical aggression ($sr^2 = .03$, $\beta = .39$). MAST scores and anger/irritability each accounted for only 1% of the unique variance. The Gender x Partner's Verbal Aggression interaction and the Gender x AI interaction were significant but each accounted for less than 1% of the variance.

Discussion

As hypothesized, the situational component explained more variance in the data than the background component. For women and men, the amount of variance accounted for was almost tripled after the addition of the situational factors. Notably, partner aggression contributed to a substantial increase in the amount of variance, which raises important questions about the overall contribution of background factors to IP violence. Other researchers have noted that perhaps too much has been made of the effect of early childhood experiences on IP violence, which Gelles (1980) termed the "woozle" effect. Although researchers routinely find that the relationship between IP violence and witnessing and/or experiencing parental aggression is usually nonsignificant or small, the importance of parental aggression continues to be emphasized (Malone, Tyree, & O'Leary, 1989). Malone et al., as well as Gwartney-Gibbs, Stockard, and Bohmer (1987) argued that over time the effects of violence in the family of origin decline and proximal factors become more important. The present study supports this conclusion. Partner's verbal aggression was the single best predictor of aggression, and partner's physical aggression was the second best predictor. The situational component substantially increased the predictive power of the model. The contribution of other variables was insubstantial in comparison. Our analyses suggested that the background variables hypothesized by Riggs and O'Leary made a small but significant contribution to the percentage of variance accounted for in partner violence. These background factors included demographic factors, child abuse, and personality and attitudinal factors. However, it would be premature to speculate in greater detail about which specific

background factors are most important. Each factor contributed less than 1% of the unique variance and at the present time there are no widely agreed-upon measures of each of the constructs. Had a different set of measures been used, a different pattern of results might have emerged. Nevertheless, given that our measures differed from those used by Riggs and O'Leary, the results support the validity of their model. However, further work is needed to more precisely identify specific measures best suited for reflecting each construct.

Gender-related patterns that would reasonably be predicted to occur in our analyses were not found. Neither the background component in general nor the partner aggression variables in particular accounted for more variance in the female data than they did in the male data. Moreover, the overall model as well as the background and situational components accounted for more variance in the male (67%) than in the female data (55%), suggesting that there are probably keys factors related to women's aggression that have not been identified.

The most interesting finding is perhaps the remarkable similarity in the models for women and men. For both women and men, situational variables accounted for more variance than background variables; furthermore, partner verbal aggression was by far the most important situational variable, followed by partner's physical aggression, a pattern confirmed in the final regression analysis.

Although partner's verbal aggression was equally important for women and men, it apparently has a different meaning and function in the prediction of intimate partner violence, as evidenced by the non-overlapping beta weights and the small but statistically significant gender by partner's verbal aggression interaction in the final regression analysis. Further exploration of this relationship will provide insight into the development of a better explanatory model of female partner aggression. Various relationship factors, including stress, conflict, and communication patterns, as well as status or power differences between the women and their male partners, undoubtedly alter the meaning of partner verbal aggression. For example, Campbell, Muncer, Guy, and Banim (1996) reported that men use anger expression as a means of reasserting control over a situation, whereas women see anger expression as a loss of control. They found that men perceive women's aggression as expressive and women judge men's to be instrumental; apparently, women and men share the belief that men's verbal aggression is a means of control and that women's is a sign of loss of

control. These patterns are particularly likely in relationships that are male-dominant and when the couples do not agree on the appropriateness of a power imbalance (Coleman & Straus, 1986). Tang (1999) found that both men and women in husband-dominant relationships reported experiencing more partner verbal aggression (insulting, swearing, stomping) and threats to use a weapon. Only women in husband-dominant relationships reported more sulking, refusal to talk, spiteful behavior, throwing, kicking, or beating by their husbands. Sagrestano, Heavey, and Christensen (1999) recently found that both husbands and wives use more violence in marriages where the husband perceives less power, probably to compensate for a perceived lack of power. Wives' use of violence was also associated with a husband demand/wife withdrawal interactional style. To determine the differential meaning of verbal aggression for women and men it is essential that future research study the interaction of power imbalances, conflict, and the associated dynamics of ongoing partner violence.

Alcohol misuse, as measured by the MAST scores, had a small but significant effect for men but not for women. A comment on the failure of alcohol to have a stronger effect, given the important role of alcohol in relationship violence established in previous research, is in order. The measures of alcohol use employed in the present study assessed typical drinking patterns and alcohol-related problems, rather than situation-specific use of alcohol. The present study also did not assess patterns of male-female drinking during specific aggressive episodes, which may be critical to understanding the dynamics of the aggression. Roberts and Leonard (1998) have documented the relationship between drinking partnerships (patterns of partners' drinking) and relationship functioning. Although the general use of alcohol increases the likelihood of alcohol use in specific situations (Quigley & Leonard, 1999; White & Humphrey, 1994b), it is the actual use of alcohol in a specific situation that increases the likelihood of aggressive behavior. Furthermore, a series of studies by Leonard and colleagues have documented the complex relationship between general patterns of alcohol use, situational alcohol use, expectancies about alcohol-related aggression, and severity of aggression in marital relationships (Leonard & Roberts, 1998; Quigley & Leonard, 1999; Leonard & Senchak, 1993). At least for husbands it appears that aggression is mediated through marital conflict styles and alcohol consumption, which are affected by hostility, gender identity, and perceived power inequity (Leonard & Senchak, 1996). Leonard and

Senchak (1993) have also shown that premarital aggression is related to alcohol use and subsequent marital aggression.

These findings must be interpreted in respect to a number of study limitations. First, all the data were based on retrospective self-reports; therefore, causal inferences and inferences about the temporal ordering of the data must be viewed in this context. Second, little work has been done on specific operational definitions for the constructs specified by the model. Third, respondents were asked about aggression in intimate relationships in general, not in a specific relationship, thereby making inferences about the dynamics of aggression in specific relationships more difficult. Fourth, a number of situational variables originally identified by Riggs and O'Leary (1989) are yet to be integrated into the model. These include relationship characteristics, such as marital discord and dysfunctional communication patterns (Malone et al., 1989), and contextual factors such as the influence of peers (Gwartney-Gibbs et al., 1987). Lastly, the strongest predictors of intimate partner violence were partner's verbal and physical aggression. Given that these measures were assessed using similar versions of the CTS, there is the possibility that the results are due to method variance. For men, however, their past history of self-reported sexual aggression, as measured by the SES, was also a significant predictor of intimate partner violence; the SES does not share method variance with the CTS. Similarly, for women scores on the TRB, which was used as an index of prior aggressive behavior, was a significant predictor of intimate partner violence. It does not share method variance with the CTS. These auxiliary findings lend support to a situational rather than a shared method interpretation of the results.

In summary, the present study has provided support for the generalizability of the Riggs and O'Leary model of courtship violence. However, gender differences in the model's predictive power underscore the importance of developing separate models for men and women. The results also support the conclusion that the examination of situational factors is probably more important than an examination of background factors. However, this approach does not negate the importance of research that attempts to examine indirect effects of earlier experiences on factors such as attitudes and personality.

At the applied level, the results support the conclusion that IP violence prevention programs should contain material that will allow men and women to learn that violence begets

violence. An IP may initiate behaviors that she/he perceives to be trivial; however, these behaviors can trigger an escalated response from their partner that may result in negative short and long-term medical and psychological consequences for both partners. More generally, all people should consider the effects of their own aggression as not just potentially injurious to others, but as potential elicitors of injury to themselves. In this respect, women are clearly at greater risk. This perspective should not be construed as an argument against self-defense or as victim blaming. Our intention is to increase awareness of the serious consequences of initiating violence as a conflict resolution tactic.

References

Baron, R. A., & Richardson, D. R. (1994). *Human aggression*. (2nd ed.). New York: Plenum Press.

Briere, J. (1995). *Trauma Symptom Inventory (TSI)*. Odessa, FL: Psychological Assessment Resources.

Check, J. V. P. (1984). *The hostility toward women scale*. The University of Manitoba, Canada.

Clark, M. L., Beckett, J., Wells, M., Dungee-Anderson, D. (1994). Courtship violence among African American college students. *Journal of Black Psychology*, 20, 4, 264-281.

Cohen, J., & Cohen, P. (1983). Nominal or qualitative scales. Cohen J. & Cohen P. *Applied multiple regression/correlation analysis for the behavioral sciences*. (pp. 111, 181-222). Hillsdale, NJ: Lawrence Erlbaum Associates.

Coleman, D. H., & Straus, M. A. (1986). Marital power, conflict, and violence in a nationally representative sample of American couples. *Violence and Victims*, 1, 141-157.

Comins, C. A. (1984). Violence between college dating partners: Incidence and contributing factors. *Dissertation Abstracts International*, 45, 1-174.

Gelles, R. J. (1980). Violence in the family: A review of research in the seventies. *Journal of Marriage and the Family*, 42 (4), 873-885.

Gwartney-Gibbs, P. A., Stockard, J., & Bohmer, S. (1987). Learning courtship aggression: The influence of parents, peers, and personal experiences. *Family Relations*, 36, 276-282.

Hammock, G. S., & Richardson, D. R. (1992). Predictors of aggressive behavior. *Aggressive-Behavior*, 18, 219-229.

Humphrey, J.A. & White, J.W. (1992). *Perpetration of sexual assault: Social psychological predictors*. Presented at American Society of Criminology, New Orleans, L.A., November.

Koss, M. P., & Gaines, J. A. (1993). The prediction of sexual aggression by alcohol use, athletic participation, and fraternity affiliation. *Journal of Interpersonal Violence*, 8, 94-108.

Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*, 55, 162-170.

Laner, M. R. (1990). Violence or its precipitators: Which is more likely to be identified as a dating problem? *Deviant Behavior*, 11, 329-329.

Leonard, K. E., & Roberts, L. J. (1998). The effects on the marital interactions of aggressive and nonaggressive husbands and their wives. *Journal of Abnormal Psychology*, 107, 602-615.

Leonard, K. E. & Senchak, M. (1993). Alcohol and premarital aggression among newlywed couples. *Journal of Studies on Alcohol*, 11, 96-108.

Leonard, K. E. & Senchak, M. (1996). Prospective prediction of husband marital aggression within newlywed couples. *Journal of Abnormal Psychology*, 105, 369-380.

Makepeace, J. M. (1981). Courtship violence among college students. *Family Relations*, 30, 97-102.

Malamuth, N. M., Heavey, C. L., & Linz, D. (1993). Predicting men's antisocial behavior against women: The interaction model of sexual aggression. G.C.N. Hall, R. Hirschman, J. R. Graham, & M. S. Zaragoza. *Sexual aggression: Issues in etiology, assessment, and treatment*. (pp. 63-97). London: Taylor & Francis.

Malamuth, N. M., Linz, D., Heavey, C. L., Barnes, G., & Acker, M. (1995). Using the confluence model of sexual aggression to predict men's conflict with women: A 10-year follow-up study. *Journal of Personality and Social Psychology*, 69, 353-369.

Malone, J., Tyree, A., & O'Leary, K. D. (1989). Generalization and containment: Different effects of past aggression for wives and husbands. *Journal of Marriage and the Family*, 51, 687-697.

Merrill, L. L., Hervig, L. K., Milner, J. S., & Newell, C. E. (1998). Intimate partner conflict resolution in a navy basic trainee sample. *Military Psychology*, 10, 1-15.

Miller, S. L., Simpson, S. S., (1991). Courtship violence and social control: Does gender matter? Gender and sociolegal studies. *Law and Society Review*, 25, 2, 335-365.

Newell, C. E., & Merrill, L. L. (1996). *Navy trainee's hostile attitudes as a function of pre-enlistment sexual aggression/victimization*. Paper presented at the Annual APA: Toronto, Ontario, Canada.

O'Leary, K. D., Barling, J., Arias, I., Rosenbaum, A., Malone, J., & Tyree, A. (1989). Prevalence and stability of physical aggression between spouses: A longitudinal analysis. *Journal of Consulting & Clinical Psychology, 57*, 263-268.

O'Leary, K. D., Malone, J., & Tyree, A. (1994). Physical aggression in early marriage: Pre-relationship and relationship effects. *Journal of Consulting & Clinical Psychology, 62*, 594-602.

Quigley, B. M., & Leonard, K. E. (1999). Husband alcohol expectancies, drinking, and marital-conflict styles as predictors of severe marital violence among newlywed couples. *Psychology of Addictive Behavior, 13*, 49-59.

Riggs, D. S., & O'Leary, K. D. (1989). A theoretical model of courtship aggression. Pirog-Good M. A. *Violence in dating relationships: Emerging social issues*. (pp. 53-71). New York: Praeger

Riggs, D. S., & O'Leary, K. D. (1996). Aggression between heterosexual dating partners: An examination of a causal model of courtship aggression. *Journal of Interpersonal Violence, 11*, 519-540.

Roberts, L. J., & Leonard, K. E. (1998). An empirical typology of drinking partnerships and their relationship to marital functioning and drinking consequences. *Journal of Marriage and the Family, 60*, 515-526.

Roscoe, B., & Kelsey, T. (1986). Dating violence among high school students. *Psychology: A Quarterly Journal of Human Behavior, 23*, 53-59.

Rouse, L. P. (1991). College students and the legacy of spouse abuse. *New Directions for Student Services, 54*, 51-62.

Ryan, K. (1995). Do courtship-violent men have characteristics associated with a "battering personality?" *Journal of Family Violence, 10*, 99-120.

Sagrestano, L.M., Heavey, C. L., & Christensen, A. (1999). Perceived power and physical violence in marital conflict. *Journal of Social Issues*, 55, 65-79.

Selzer, M. L. (1971). The Michigan Alcoholism Screening Test: The quest for a new diagnostic instrument. *American Journal of Psychiatry*, 127, 1653-1658.

Stickel, S. A. & Ellis, K. L. (1993). Dating relationships of entering first-year students: A baseline study of courtship violence. *Journal of College Student Development*, 34, 6, 439-440.

Straus, M. A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. M. A. Straus & R. J. Gelles. *Journal of Marriage and the Family*, Feb. Form A, p.87.

Straus, M. A. (1990). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. M. A. Straus & R. J. Gelles. *Physical violence in American families*. (pp. 29-47). New Brunswick, NJ: Transaction Publishers.

Straus, M. A., & Gelles, R. J. (1990). *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families*. New Brunswick, NJ: Transaction Publishers.

Sugarman, D. B., & Hotaling, G. T. (1989). Dating violence: A review of contextual and risk factors. In B. Levy (Ed.), *Dating Violence: Young Women in Danger*. Seattle, WA: Seal Press.

Testa, M. & Collins, R. L. (1997). Alcohol and risky sexual behavior: Event-based analyses among a sample of high-risk women. *Psychology of Addictive Behaviors*, 11, 190-201.

Thompson, E. H. (1991). The maleness of violence in dating relationships: An appraisal of stereotypes. *Sex Roles*, 24, 261-278.

Tontodonato, P. & Crew, K. B. (1991). Dating violence, social learning theory, and gender: A multivariate analysis. *Violence and victims*, 7, 3-14.

White, J. W. & Humphrey, J. A. (1994a). Female aggression in heterosexual relationships. *Aggressive Behavior*, 20, 195-202.

White, J. W. & Humphrey, J. A. (1994b). *Alcohol/drug use and sexual aggression: Distal and proximal influences*. Paper presented at XI World Meeting: International Society for Research on Aggression. Delray Beach, Florida, July.

White, J. W., & Koss, M. P. (1991). Courtship violence: Incidence in a national sample of higher education students. *Violence and Victims, 6*, 247-256.

Footnotes

¹ The data for respondents who answered "No" to all CTS PC and IP items were removed from the sample. These cases were considered invalid because everyone, who had a parent or IP, should endorse at least some items on the CTS, such as "discussing issues calmly." It is highly unlikely that one would never experience conflict with a parent or IP.

² The percentages and alphas we report differ slightly from those found in Merrill et al. (1998) due to differences in sample sizes. We included only those cases for which complete data were available on all variables used in the regression analyses.

³Geographic locale was not included because Merrill et al. (1998) reported that it was not significantly related to any indices of IP violence. Demographic factors were treated as covariates and entered as the first block of variables in the blockwise hierarchical regression analyses. Results revealed that, although this step was significant in all the analyses, demographic factors as a group accounted for only 1-2% of the variance in the male and female data.

REPORT DOCUMENTATION PAGE

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 5Aug99	3. REPORT TYPE & DATE OVERED Interim 15Jan99 – 30Jun99
4. TITLE AND SUBTITLE Predictors of Premilitary Courtship Violence in a Navy Recruit Sample		5. FUNDING NUMBERS Program Element: Work Unit Number: 6309
6. AUTHOR(S) Jacquelyn W. White, Lex L. Merrill, Mary P. Koss		8. PERFORMING ORGANIZATION Report 99-19
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Health Research Center P.O. Box 85122 San Diego, CA 92186-5122		10. SPONSORING/MONITORING AGENCY REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAMES(S) AND ADDRESS(ES) Office of Naval Research Chief, Bureau of Medicine and Surgery 800 North Quincy St. Code: BUMED-26 Arlington, VA 22217-5600 2300 E Street NW Washington, DC 20372-5300		11. SUPPLEMENTARY NOTES None
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE A
13. ABSTRACT (Maximum 200 words) This study extended research on intimate partner (IP) aggression to premilitary experiences of IP violence among U.S. Navy recruits. Riggs and O'Leary's (1989) model of courtship aggression was examined separately for men (N = 1,307) and women (N = 1,477). Partner verbal, physical, and sexual aggression and alcohol use were used as additional predictors of courtship aggression. Situational components explained more variance in the data than the background components. Partner aggression contributed to a substantial increase in the amount of variance. We found that partner's verbal aggression was the single best predictor of aggression, and partner's physical aggression was the second best predictor. The situational component substantially increased the predictive power of the model and background variables made a small but significant contribution. The results support the validity of the Riggs and O'Leary model. The results support the conclusion that IP violence prevention programs should contain material that will allow men and women to learn that violence begets violence. An IP may initiate behaviors that she/he perceives to be trivial; however, these behaviors can trigger an escalated response from their partner that may result in negative short and long-term medical and psychological consequences for both partners.		
14. SUBJECT TERMS Domestic violence, intimate partner violence, spouse abuse		15. NUMBER OF PAGES 23
16. PRICE CODE		
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified
20. LIMITATION OF ABSTRACT Unclassified		